

Silicon NPN Power Transistors

BDX53/A/B/C

DESCRIPTION

- With TO-220C package
- High DC current gain
- DARLINGTON
- Complement to type BDX54/A/B/C

APPLICATIONS

- Power linear and switching applications
- Hammer drivers, audio amplifiers

PINNING

PIN	DESCRIPTION
1	Base
2	Collector; connected to mounting base
3	Emitter

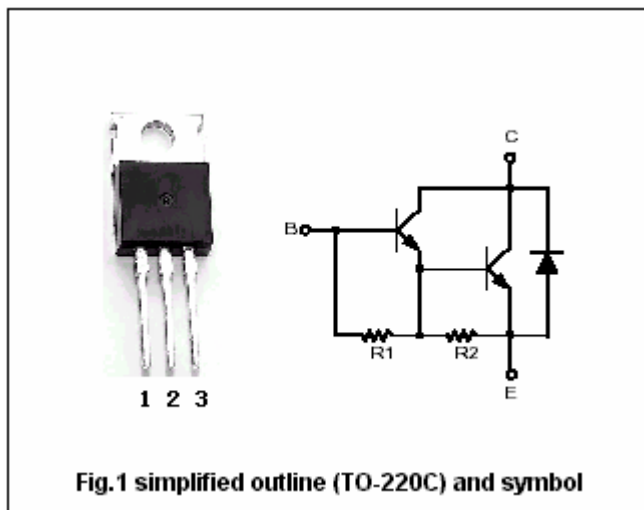


Fig.1 simplified outline (TO-220C) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-base voltage	BDX53	45	V
		BDX53A	60	
		BDX53B	80	
		BDX53C	100	
V _{CEO}	Collector-emitter voltage	BDX53	45	V
		BDX53A	60	
		BDX53B	80	
		BDX53C	100	
V _{EBO}	Emitter-base voltage	Open collector	5	V
I _C	Collector current-DC		8	A
I _{CM}	Collector current-Pulse		12	A
I _B	Base current		0.2	A
P _C	Collector power dissipation	T _C =25	60	W
T _j	Junction temperature		150	
T _{stg}	Storage temperature		-65~150	

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal resistance junction to case	2.08	/W

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CHARACTERISTICS

T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
V _{CEO(SUS)}	Collector-emitter sustaining voltage	I _C =0.1A, I _B =0	BDX53	45			V
			BDX53A	60			
			BDX53B	80			
			BDX53C	100			
V _{CEsat}	Collector-emitter saturation voltage	I _C =3A, I _B =12mA			2.0	V	
V _{BE sat}	Base-emitter saturation voltage	I _C =3A, I _B =12mA			2.5	V	
I _{CBO}	Collector cut-off current	BDX53	V _{CB} =45V, I _E =0			0.2	mA
		BDX53A	V _{CB} =60V, I _E =0				
		BDX53B	V _{CB} =80V, I _E =0				
		BDX53C	V _{CB} =100V, I _E =0				
I _{CEO}	Collector cut-off current	BDX53	V _{CE} =22V, I _B =0			0.5	mA
		BDX53A	V _{CE} =30V, I _B =0				
		BDX53B	V _{CE} =40V, I _B =0				
		BDX53C	V _{CE} =50V, I _B =0				
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			2.0	mA	
h _{FE}	DC current gain	I _C =3A; V _{CE} =3V	750				
V _{F-1}	Forward diode voltage	I _F =3A		1.8	2.5	V	
V _{F-2}	Forward diode voltage	I _F =8A		2.5		V	

